



# Water Conditions Summary

## **Operations Control and Maintenance Engineering Department Public Works Resource Area**

Governing Board Presentation

March 13, 2002



# ***Meteorological Conditions***

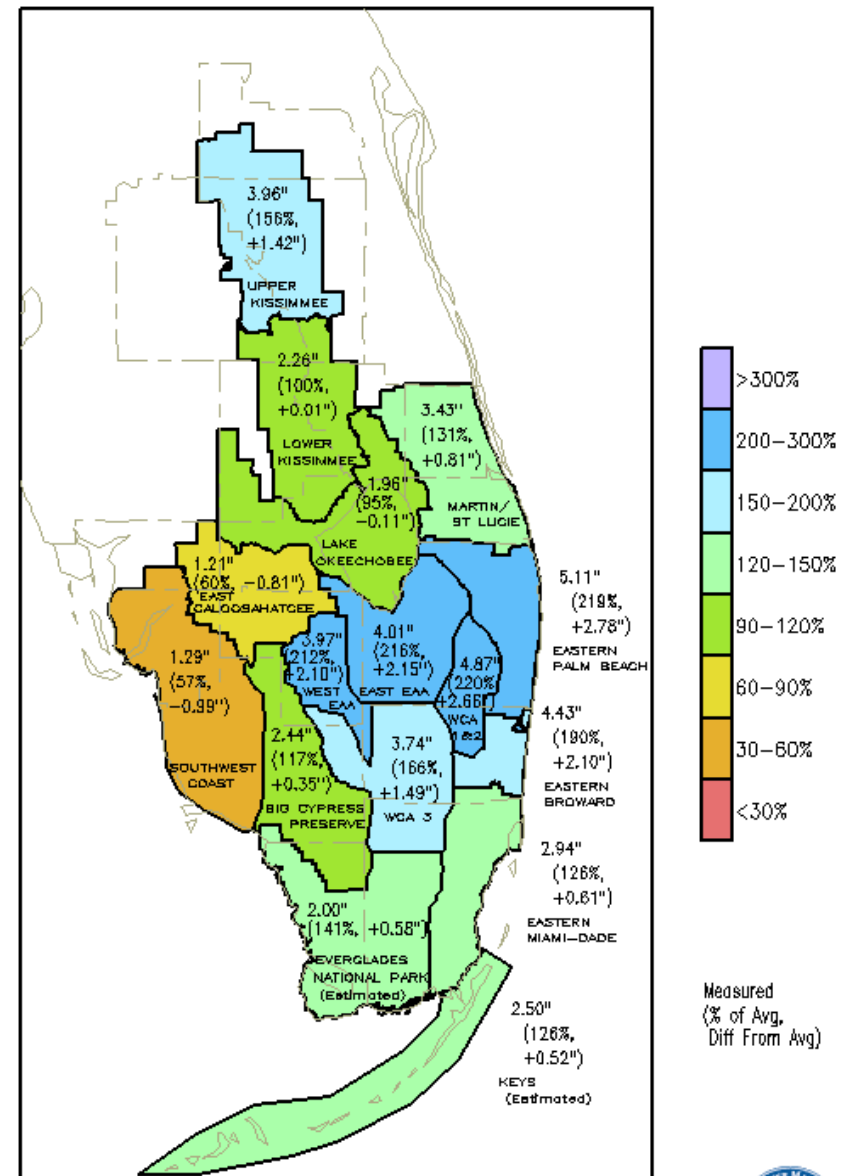
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# Meteorological Conditions

- **February's above average rainfall broke a string of 3 consecutive dry months**
  - Dry season through January exhibited below average rainfall
- February Rainfall : District-wide rainfall was 132% of average
  - Normal Rainfall: 2.23 inches
  - Actual Rainfall: 2.94 inches
- March Rainfall : To-date District-wide rainfall is about 48% of average

- February generally exhibited above average rainfall over most of the District.

SFWMD Rainfall  
02-Feb-2002 to 01-Mar-2002



DISTRICT-WIDE: 2.93" (131%, +0.70")

GRADS: COLA/ICES

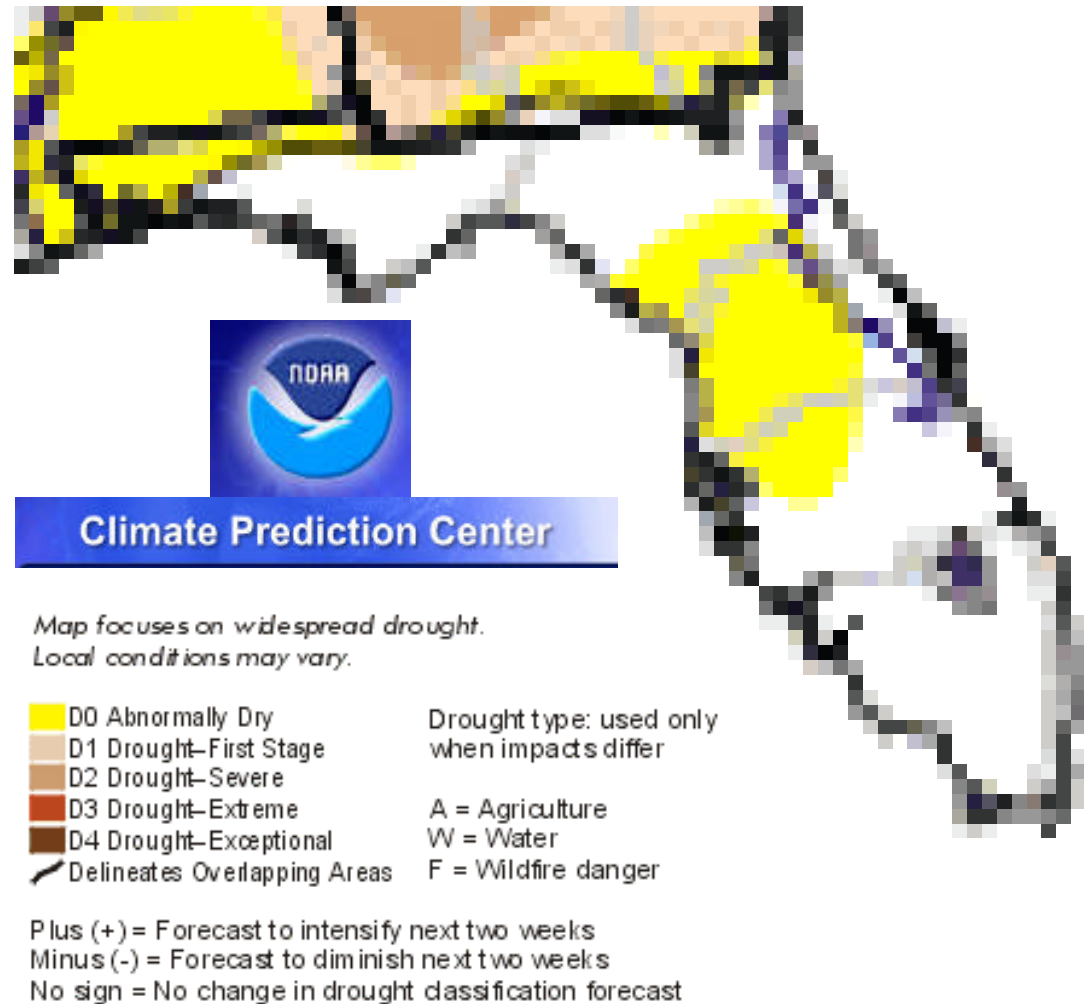
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# Climate Conditions

## Drought Outlook

- Normal hydrologic conditions are indicated across District in the latest CPC drought outlook

















# ***General Hydrologic Conditions***

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# General Hydrologic Conditions

-  **Upper Chain** - Normal seasonal levels
-  **Kissimmee River** - Normal seasonal levels
-  **Lake Okeechobee** - Near normal levels
-  **Lake Okeechobee Agriculture** - No short-term water supply concerns
-  **Estuaries** - Mod. salinity in Caloosahatchee

# General Hydrologic Conditions

-  **Water Conservation Area 1** - >Norm. Stages
-  **Water Conservation Area 2** - >Norm. Stages
-  **Water Conservation Area 3** - >Norm. Stages
-  **ENP** - Normal seasonal conditions
-  **Fl. Bay** - Normal seasonal conditions
-  **Upper East Coast** - Normal levels
-  **Lower East Coast** - Normal levels
-  **Lower West Coast** - Normal levels

# Hydrologic Conditions Upper Kissimmee Basins

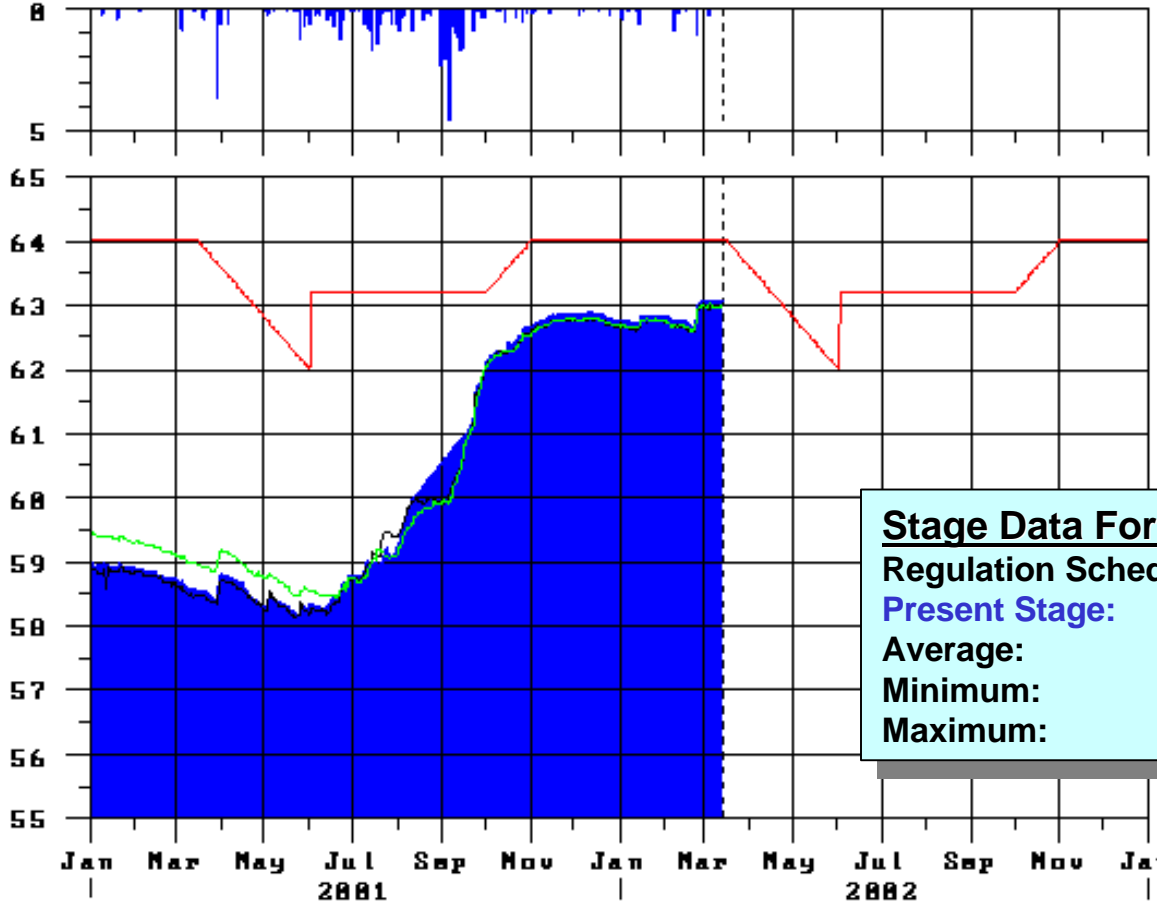
- Most lakes are between 0.5 and 2 ft. below their high pool stages
- Lake Alligator is less than 1 ft. below the regulation schedule
- Minor environmental releases (~300 cfs) from Lake Kissimmee to Kissimmee River continue in accordance with the interim restoration schedule
- Maintaining Lake Tohopekaliga stages to facilitate hydrilla treatment activities which will start next week

# Kissimmee - Lakes Trout, Coon, Center, Lizzie & Alligator

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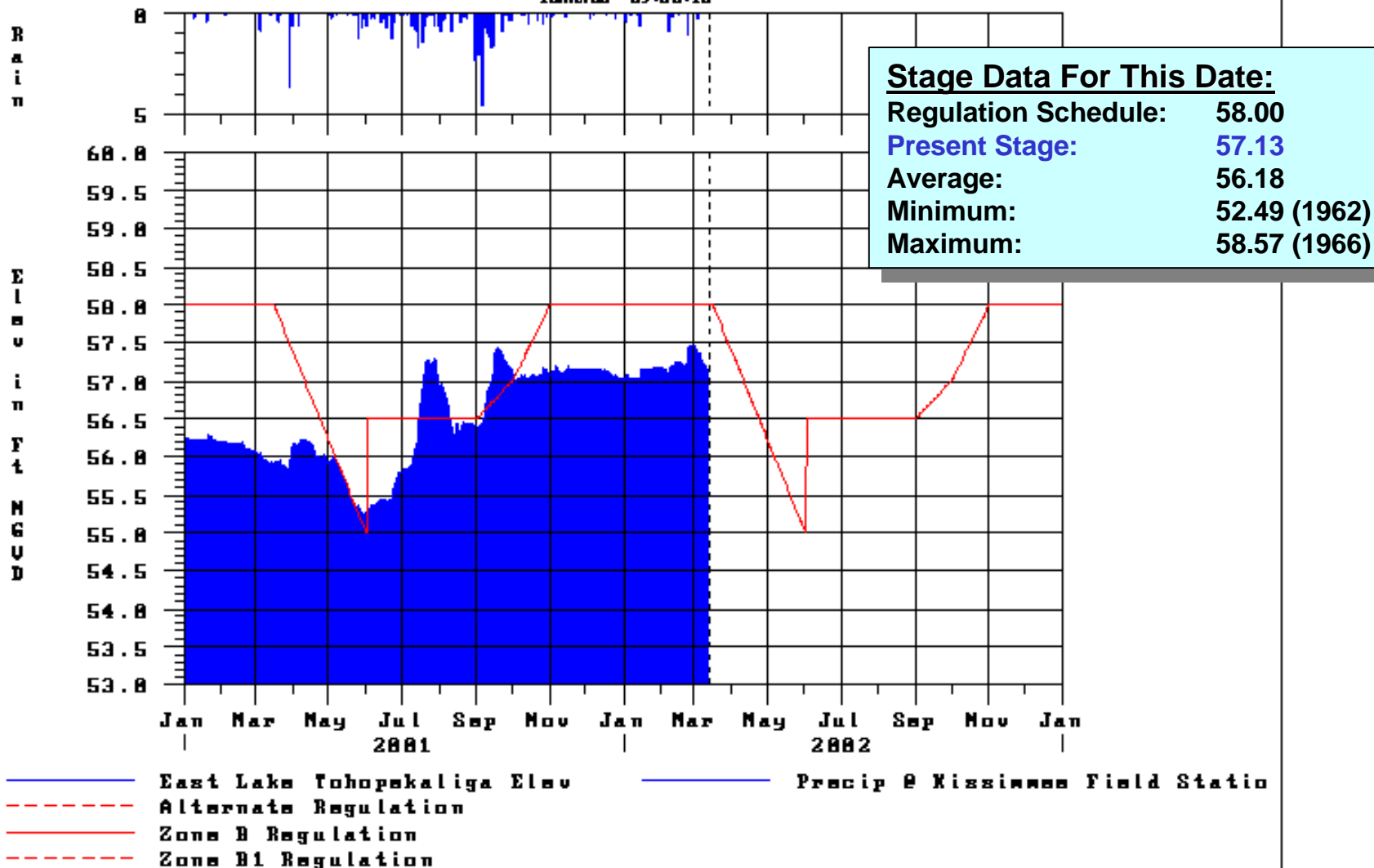
## Stage Data For This Date:

Regulation Schedule:	64.00
Present Stage:	62.93
Average:	62.86
Minimum:	60.44 (1962)
Maximum:	65.08 (1942)

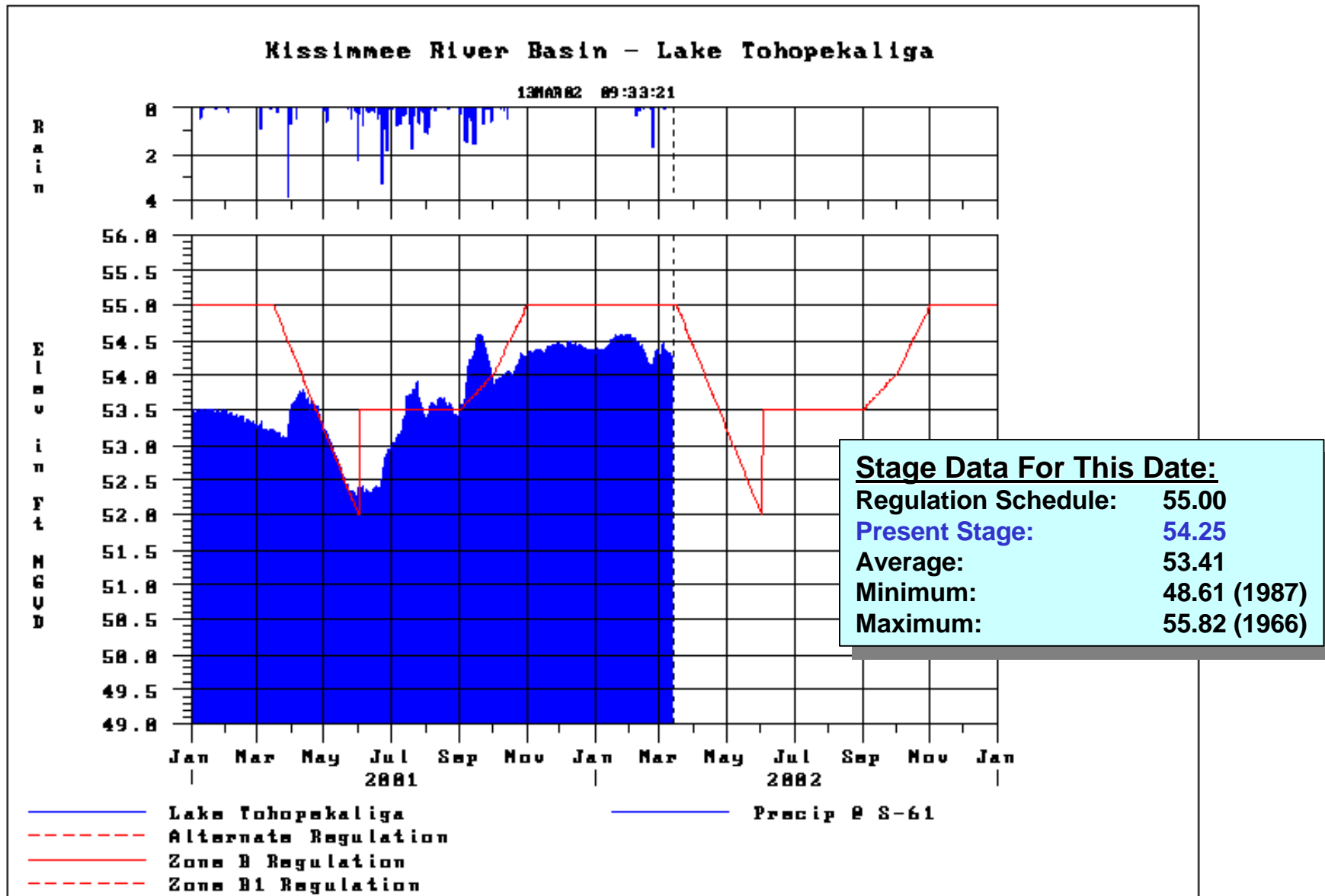
— Lake Alligator Elev	- - - - - Temporary Deviation
— S-60 Elev-Head	— Zone B Regulation
— S-50 Elev-Head	— Precip @ Kissimmee Field Station
- - - - - Alternate Regulation	

# Kissimmee River Basin - East Lake Tohopekaliga

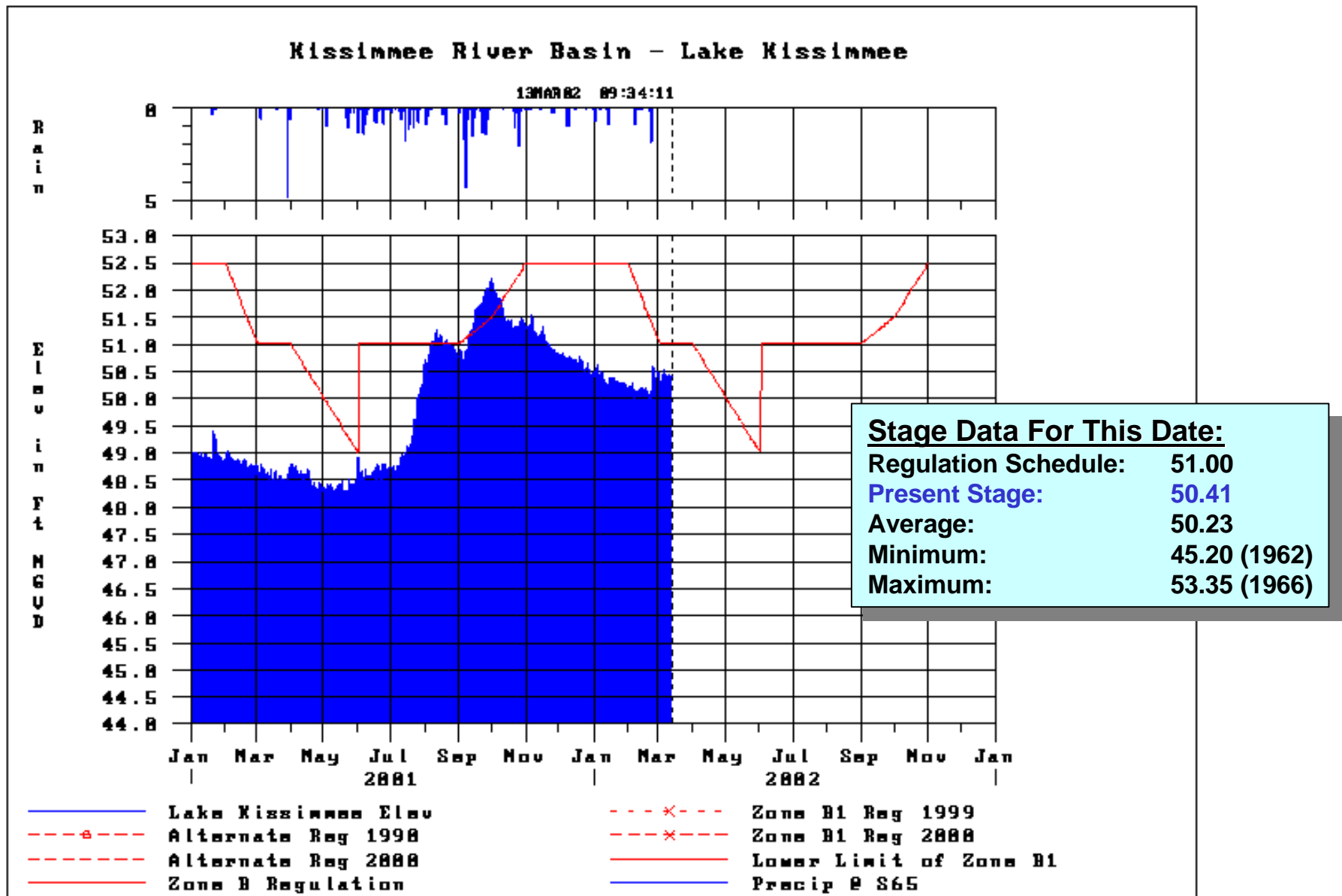
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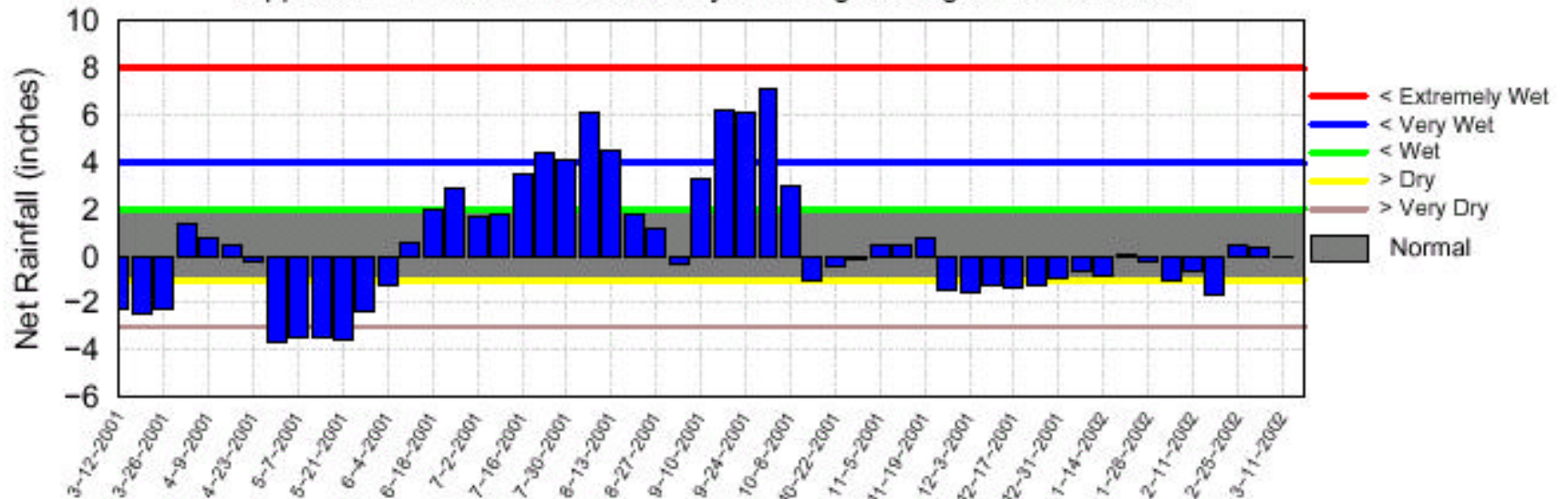
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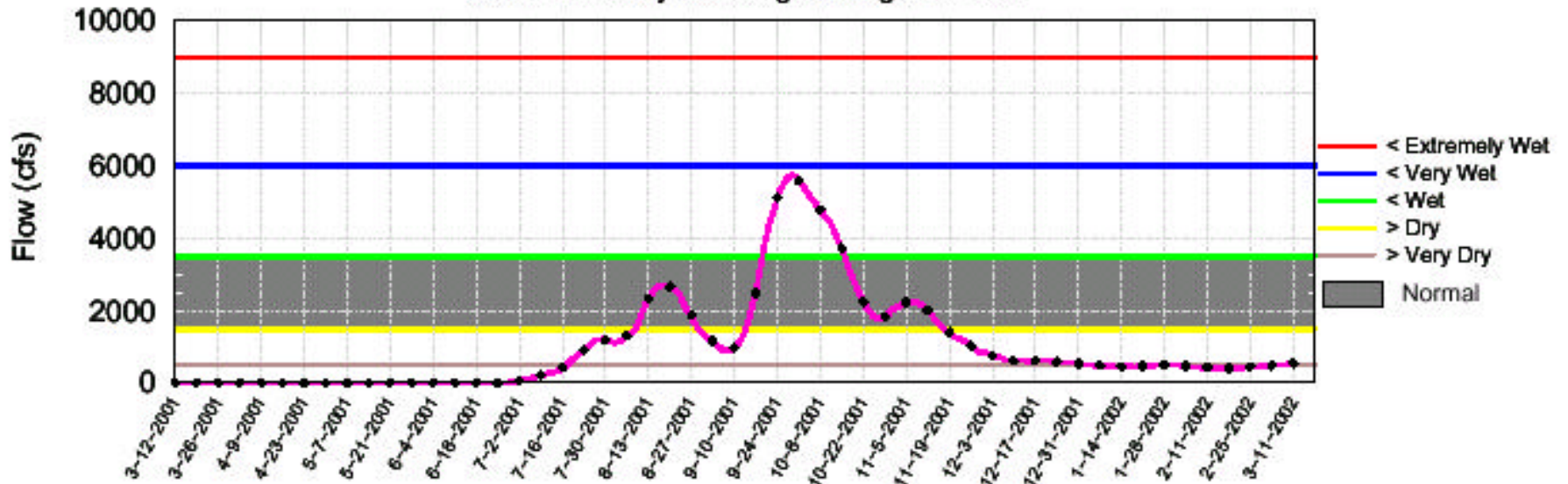
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## Tributary Basin Condition Indicators as of March 11, 2002

Upper & Lower Kissimmee 30-day Running Average of Net Rainfall



S-65E 14-day Running Average of Flow



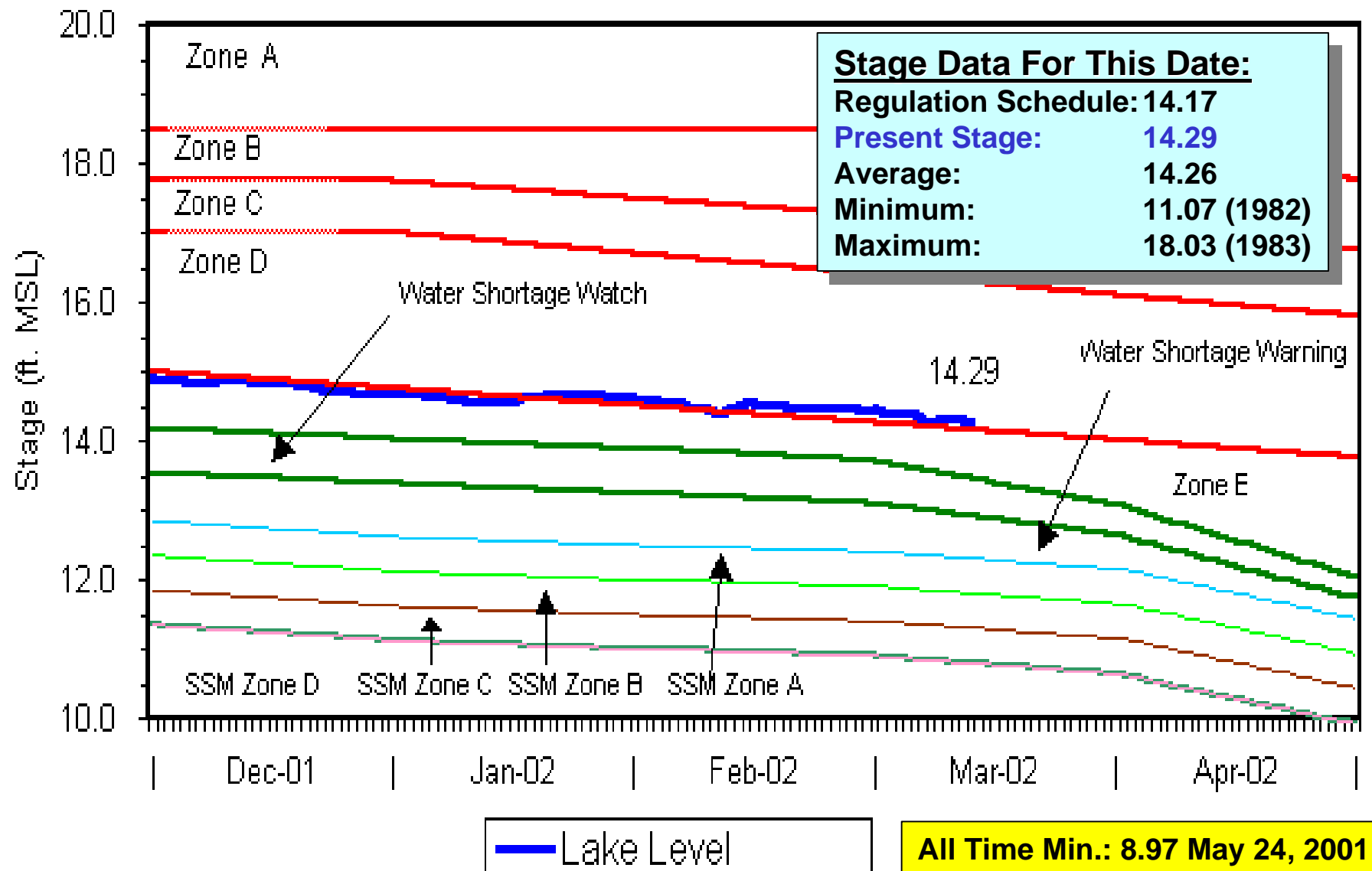
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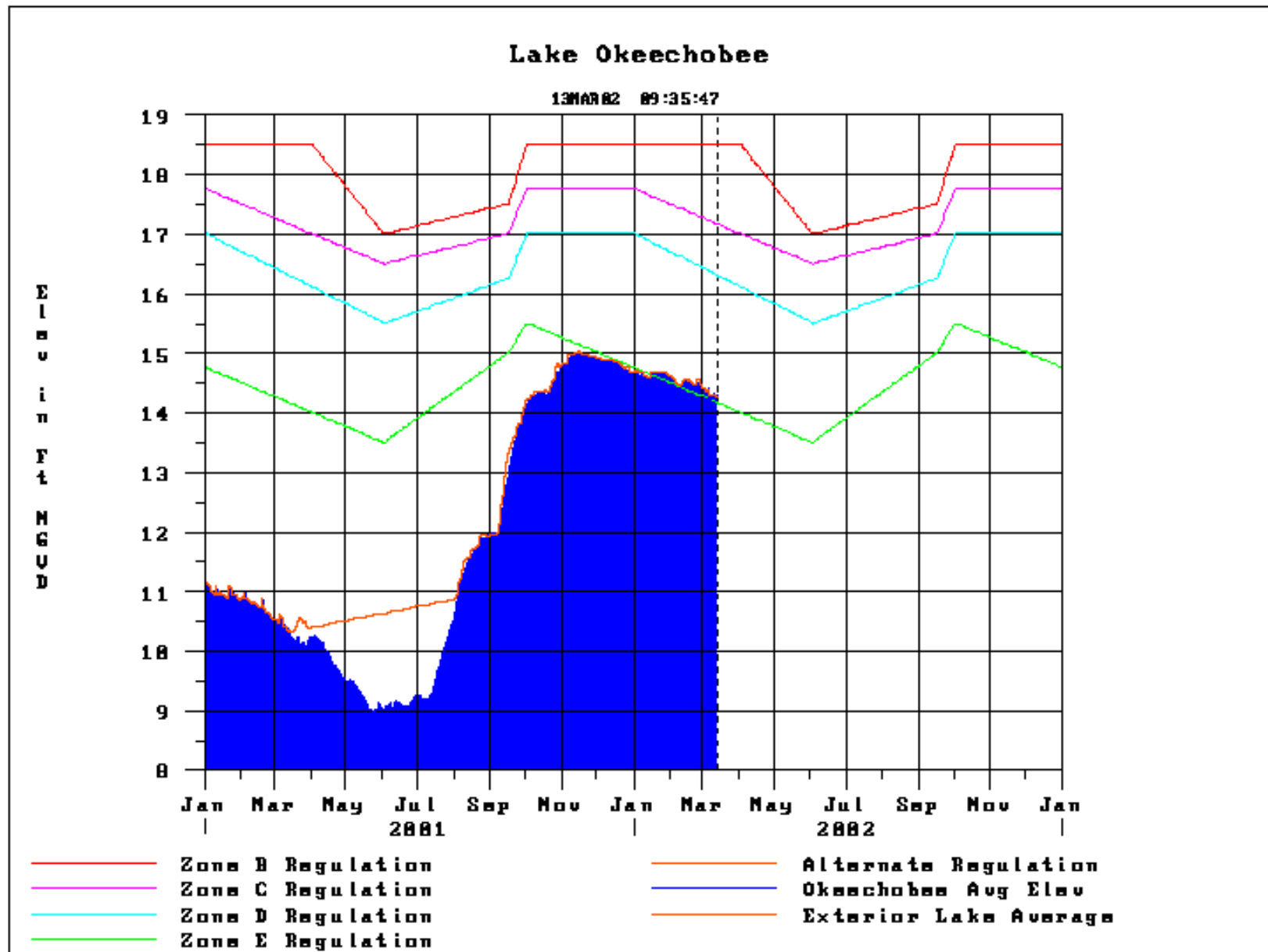
# Hydrologic Conditions Lake Okeechobee

- Lake Okeechobee stages are receding slowly in response to dry season rainfall
- February is the last month in which BMP Make-Up Water is considered in accordance with the BMP Make Up Rule
  - No BMP releases were made this year due high water levels in the Water Conservation Areas

# Lake Okeechobee

Published 03/13/2002





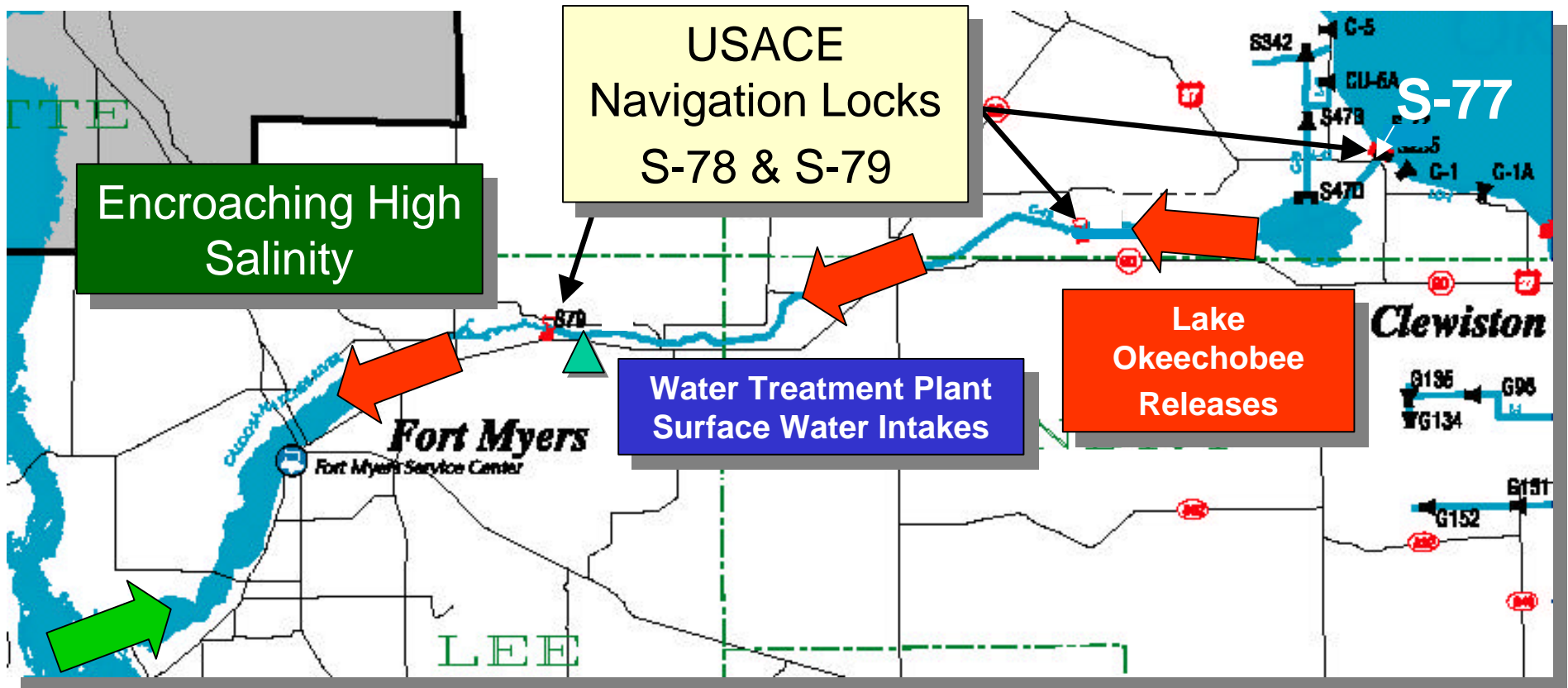
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# Lake Okeechobee Current Operations

- **Lake Okeechobee  
Regulation Schedule  
(WSE)**
  - Stages presently in Zone D
  - Below normal Kissimmee River inflows
  - Normal rainfall
  - Dry seasonal forecast
  - Normal multi-seasonal forecast
- No discharge due to WCAs being above regulation schedule
- No required discharge to estuaries



# Caloosahatchee River

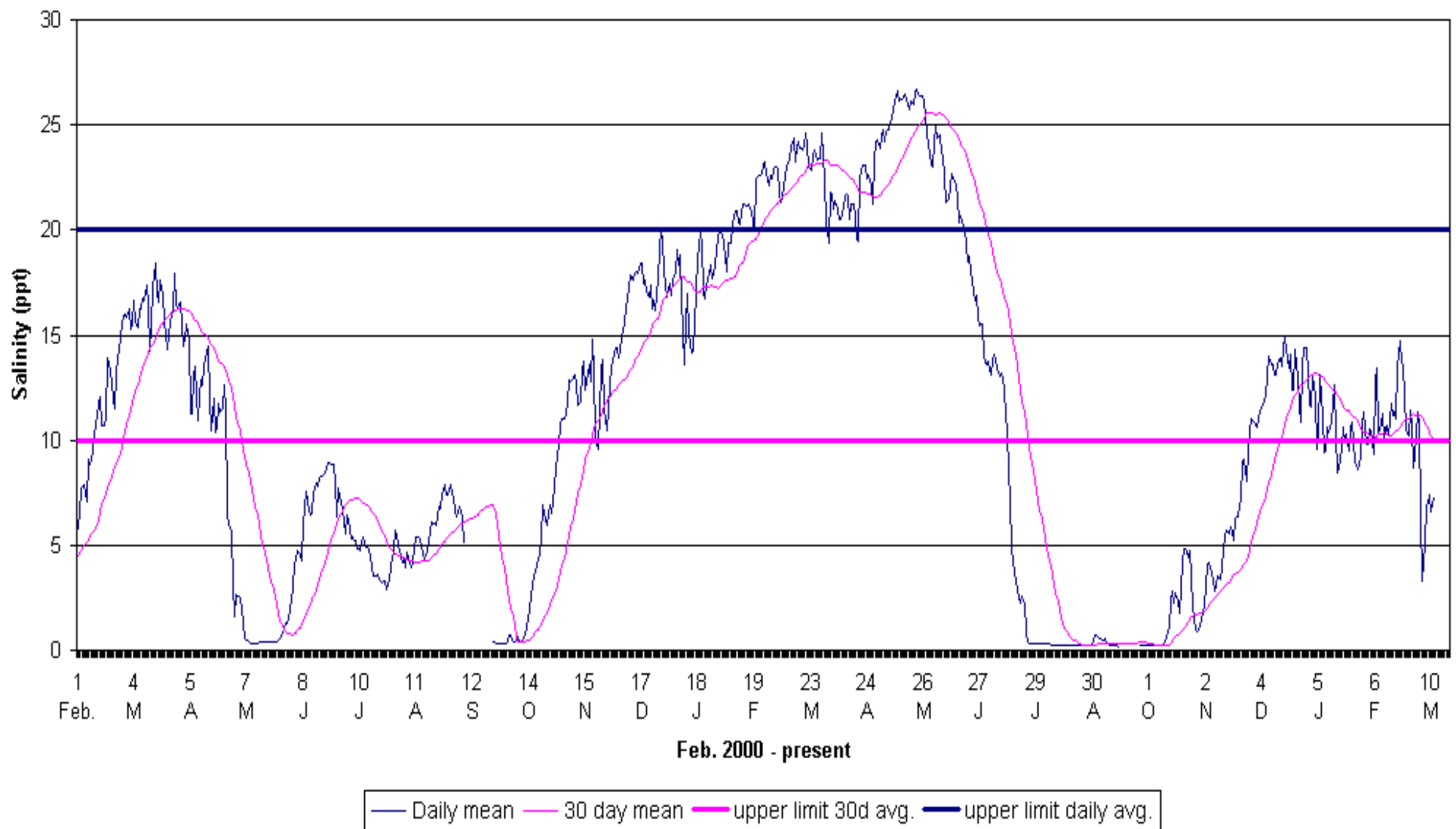


- In periods of low flow, salt water intrusion threatens aquatic grass beds and public water systems of Lee Co. and Ft. Myers
- Current weather and hydrologic conditions remain favorable to allow periodic low volume environmental releases from Lake Okeechobee with the goal of maintaining favorable salinity concentrations in the lower estuary

# Caloosahatchee Environmental Water Deliveries

- Small releases were initiated in mid-December to moderate high salinity
- Avg. Flow Rate over the past 3 months:  
~300 to 1,200 cfs
- To-Date approximately 87,000 ac-ft of water has been released from Lake Okeechobee to the estuary
  - 28 billion gallons
  - 0.2 ft. of equivalent lake depth

### Salinity at City of Ft. Myers Yacht Basin and Upper Limit Exceedance of Caloosahatchee MFL

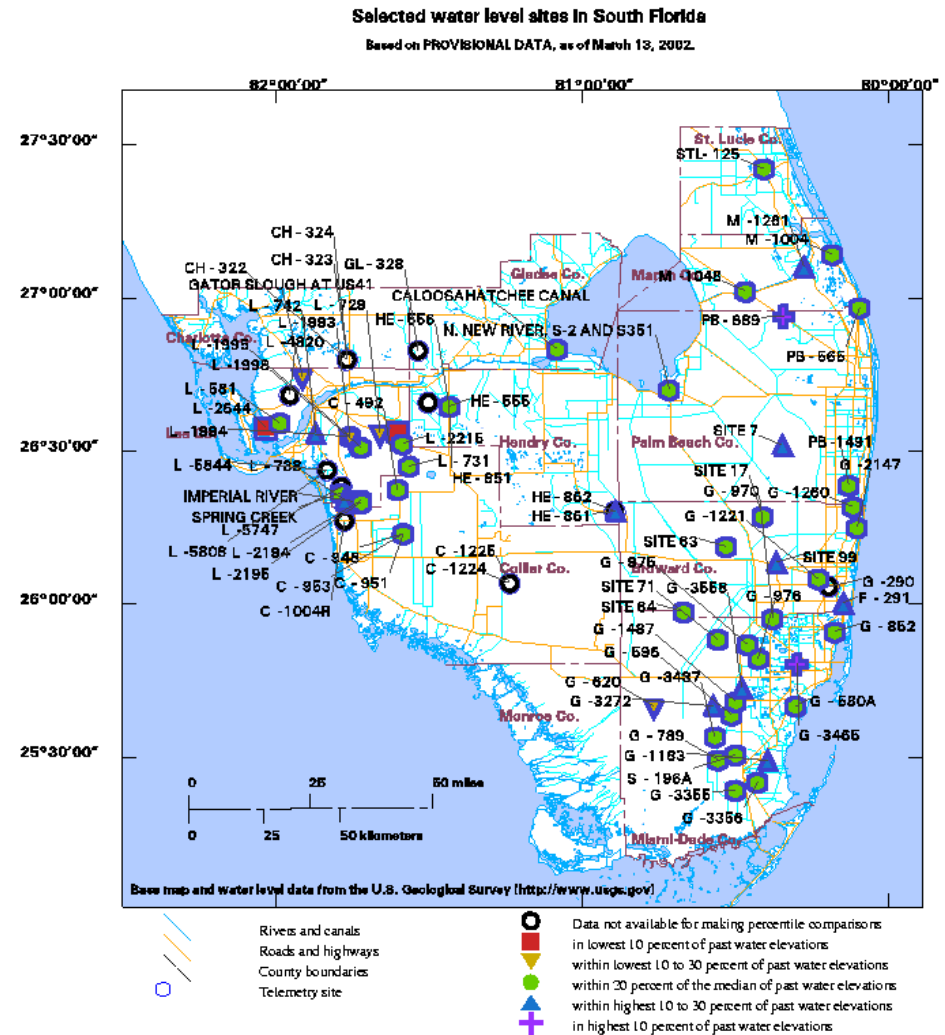


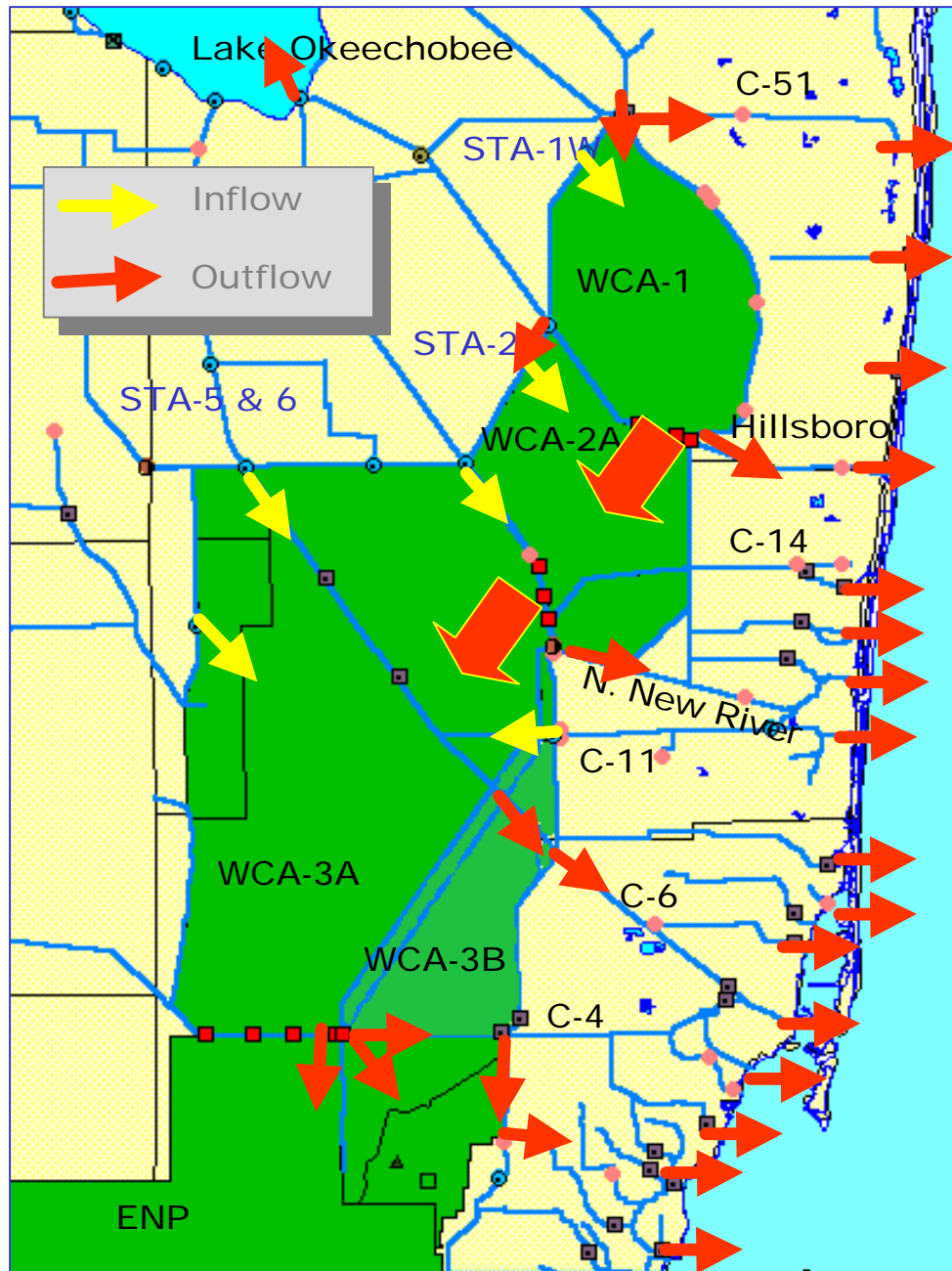
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# Hydrologic Conditions

## Groundwater Conditions

- Upper & Lower East Coast Regions: Normal
- Lower West Coast Region: Near normal and falling slowly





# *Generalized Recent WCA Operations*

**Releases were made for....**

- **WCA Regulation**
- **Flood Control**

# Hydrologic Conditions

## Water Conservation Areas

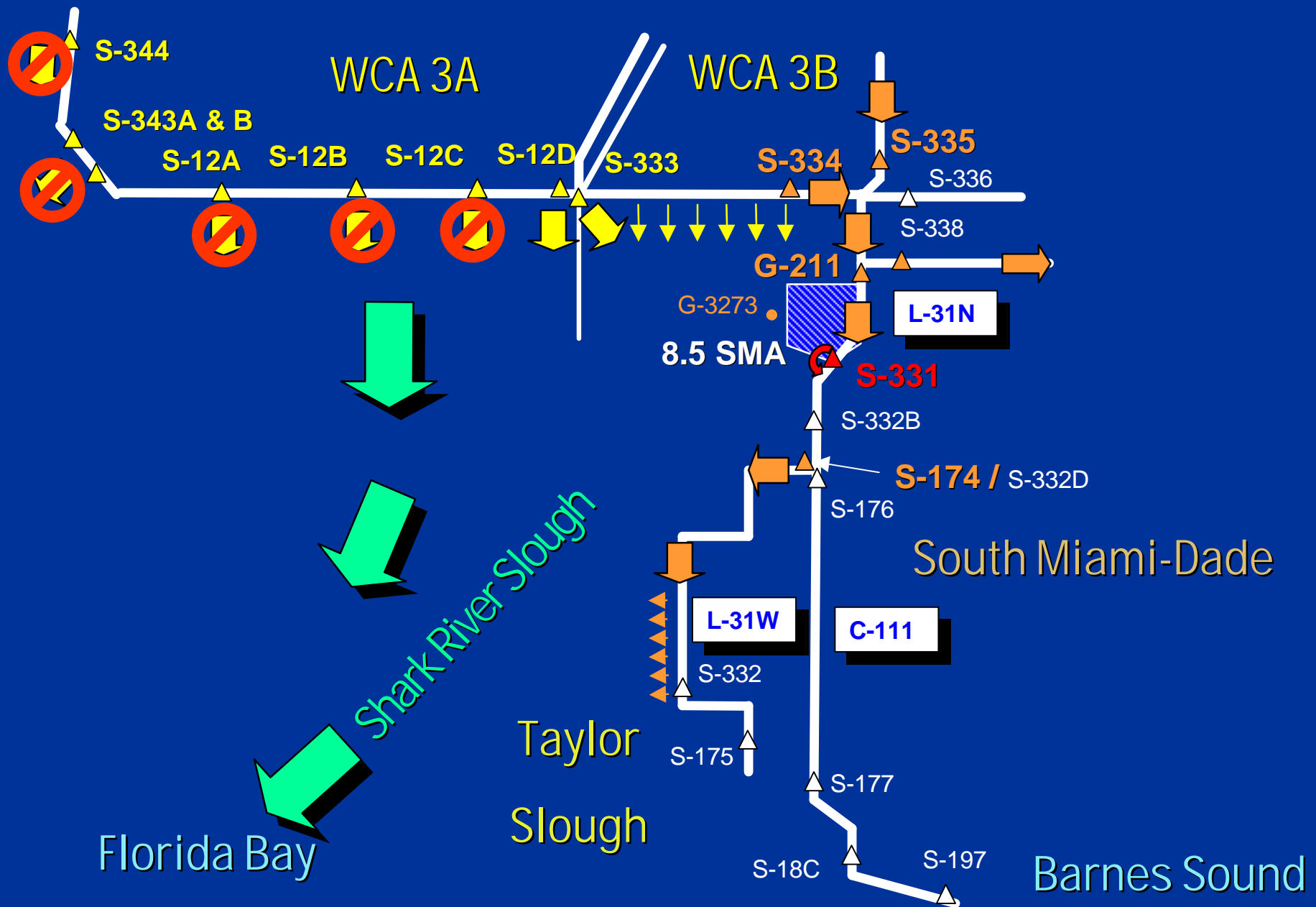
- All Water Conservation Areas are above their respective regulation schedules
  - Regulatory Releases
    - East Coast Canals (C-51, Hillsboro, & N. New River)
    - S-10D from WCA-1 to WCA-2A
    - S-11C from WCA-2A to WCA-3
    - S-12D & S-333 from WCA-3A to ENP

# Hydrologic Conditions

## SDCS - ISOP 2001 Current Operations

- ISOP 2001 criteria continues to be followed and closely coordinated with the USACE.
- WCA-3A regulatory releases increased to NESRS & WCA-3B
  - S-333: near maximum capacity
  - S-334: water supply to South Dade Conveyance System

# SDCS - ISOP 2001 March Operations





# ***Climate Outlook***

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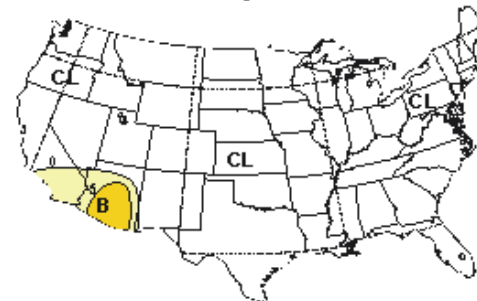
# Seasonal Climatic Outlook

- CPC reports that the period from March to May 2002 has no increased probability for either above or below average precipitation

**March 2002  
Precipitation**



**March - May 2002  
Precipitation**



Release Date: February 14, 2002

Governing Board Presentation - March 13, 2002

# Multi-Seasonal Climate Outlook

- The next several months are the time of year in which the climate system is most amenable to the growth of El Niño events
- There are continued indications that an El Niño event may be forming in the equatorial Pacific Ocean
  - It would most likely form during the April through June period, and could last into the period between February and May of 2003
  - Its likely strength is unknown at this time.

# Seasonal Outlook

# Precipitation

Release Date: February 14, 2002

April - June 2002



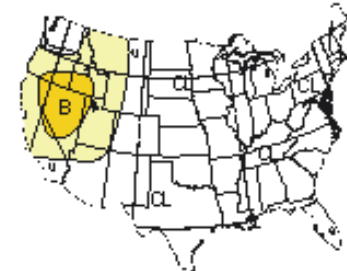
May - July 2002



June - August 2002



July - September 2002



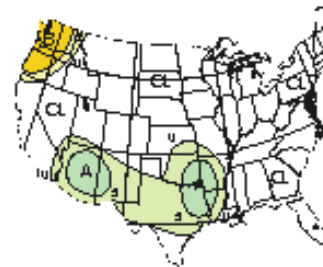
August - October 2002



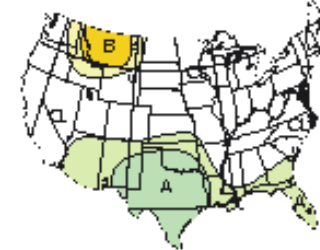
September - November 2002



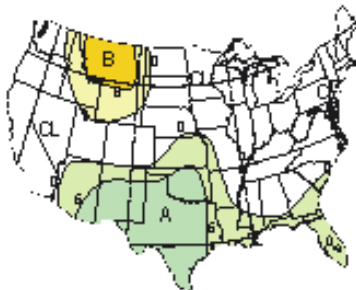
October - December 2002



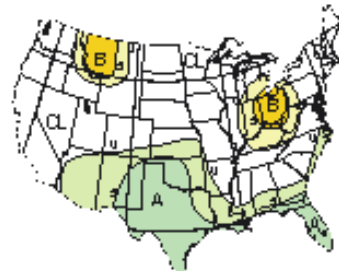
November 2002 - January 2003



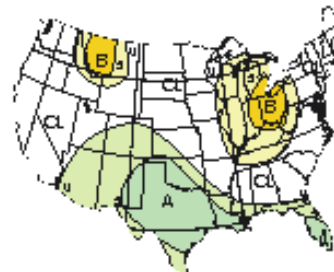
December 2002 - February 2003



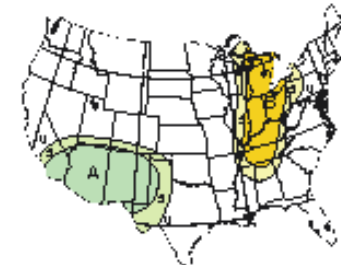
January - March 2003



February - April 2003



March - May 2003



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# ***Hydrologic Outlook***

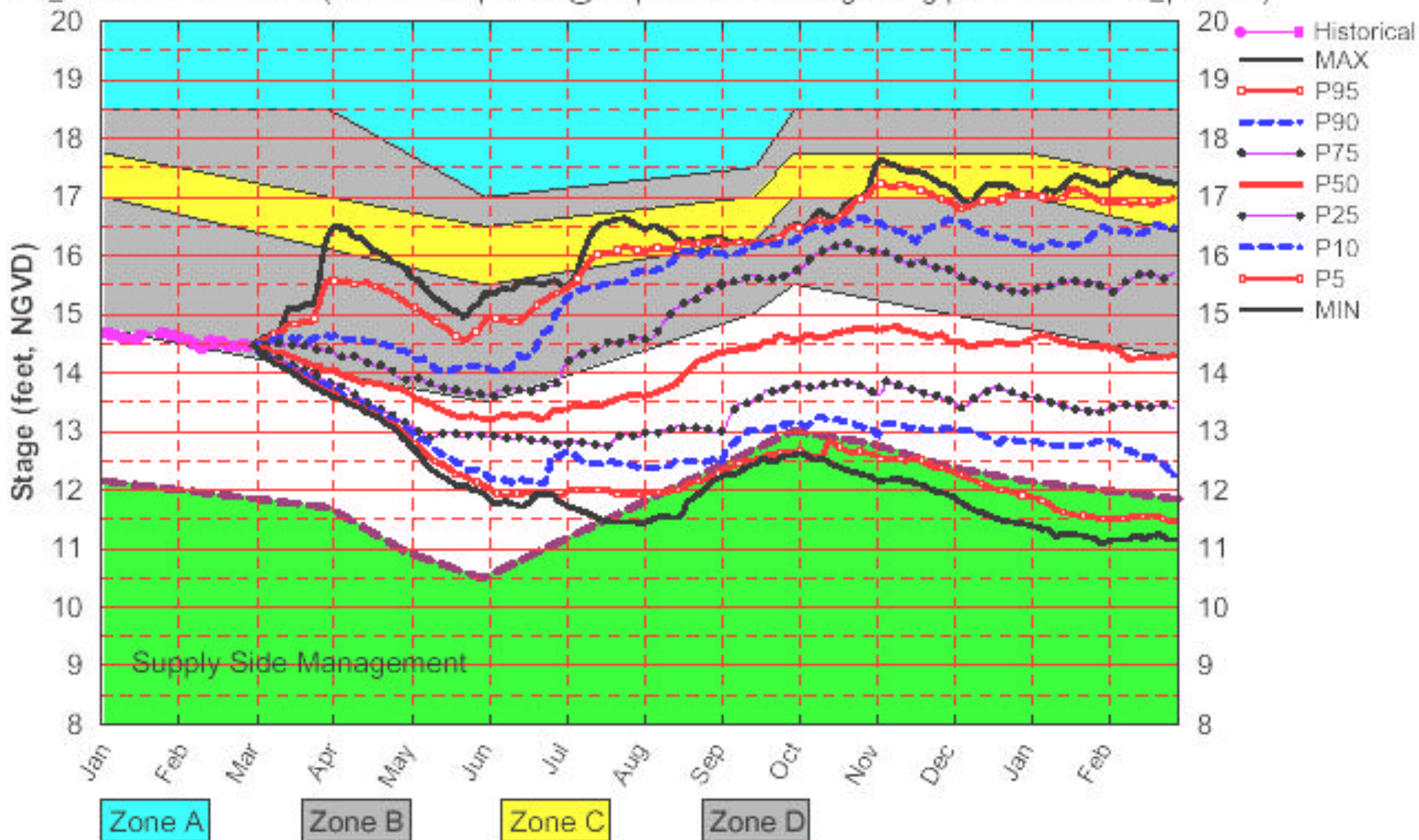
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# Hydrologic Outlook

- If wet conditions develop during the 2002 wet season and persist into the 2003 dry season there could be an increased probability of...
  - High Kissimmee River discharges to Lake Okeechobee
  - Increased Lake Okeechobee stages
    - Could be expected to rise into the regulation schedule
  - Possible regulatory releases to the estuaries and Water Conservation Areas
- Early, low level estuary discharges that may be required by WSE will play an important role in attempting to reduce persistent high lake stages and prolonged high volume discharges to the estuaries

# Lake Okeechobee SFWMM Mar 2002 Position Analysis

PA\_2 Unconditional PA (See assumptions @ [http://www.sfwmd.gov/org/pld/hsm/sfwmm\\_pa.html](http://www.sfwmd.gov/org/pld/hsm/sfwmm_pa.html))



Tue Mar 12 10:00:27 2002

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# Upcoming Operations

- If typical dry season conditions persist, Lake Okeechobee may fall below the regulation schedule (WSE - Zone D) in the next 30 days
- Lake Okeechobee Position Analysis indicates minimal risk to water supply even if environmental deliveries to the Caloosahatchee Estuary continue
- If lake stages fall below the regulation schedule within the next month, staff will continue environmental water deliveries to the Caloosahatchee Estuary, as needed, and report at the April Governing Board meeting